



Steamtown Educators Guide

Grades K-1, 2-3, 4-6





Canadian Pacific #2317 arrives at Steamtown with the *"Scranton Limited"* train ride.

About Steamtown National Historic Site

Steamtown National Historic Site was created in 1986 to further public understanding and appreciation of the role of steam railroading in the growth of America. Although the National Park Service has other units, such as Allegheny Portage and Golden Spike National Historic Sites, that tell stories about railroading history, Steamtown NHS is unique and nationally significant because it:

1. Preserves and protects both representative physical resources (structures, artifacts, locomotives, and rolling stock) and the living culture associated with the steam railroading era;
2. Offers visitors an opportunity to have a live steam experience in an operating railroad yard.



A steam locomotive on the turntable at Steamtown NHS.

Grades K–1

Moving People and Things by Rail

Interpretive Theme

- Primary Theme I**
Steam Railroad helped transform America into a modern nation, linking small rural towns with large cosmopolitan cities.
- Primary Theme II**
A huge behind-the-scenes support system helped every railroad run smoothly.

Resources

- Steam Locomotive
- Diesel Locomotive
- Freight Cars
- Caboose
- Business Car
- Train Ride
- Statues (polychrome)
- Postcards

Curriculum Standards

- Reading, Writing, Speaking, and Listening**
- 1.2.B – Identify and use a variety of media to gain information
 - 1.6.A – Listen to others
 - 1.6.C – Speak using skills appropriate to formal speech situations
 - 1.6.E – Participate in small and large group discussions with assigned roles
 - 3.8 – Science, Technology, and Human Endeavors
 - 8.2 – Pennsylvania History
 - 8.3 – United States History

Activities

- Pre-Visit**
- 1. A first Look at Freight Cars (required)
 - 2. Meet the Crew and Passengers (required)
- On-Site**
- 1. “Scranton Limited” train ride
 - 2. Walk-Around
 - 3. Identify the Crew and Passengers
- Post-Visit**
- 1. Freight Car Matching
 - 2. Postcards (required)

Sequence of Activities

Pre–Visit Modules

Suggested Program Length: 20 minutes

1. A First Look at Freight Cars
2. Meet the Crew and Passengers

On–Site Modules

Module One:

Welcome and “Scranton Limited” train ride (Seasonal)

Length of module: 45 minutes

Intro to the former Delaware, Lackawanna, and Western Railroad’s Scranton passenger station, and Steamtown National Historic Site.

Module Two:

Group Exploration (Walk Around)

Length of module: 20 minutes

Module Three:

Up–Close with Freight Cars

Length of module: 20 minutes

Module Four:

Identify Crew and Passengers

Length of module: 20 minutes

Post–Visit Modules

1. Freight Car Matching
2. Postcards

Directions and Procedures

- Discuss the upcoming trip to Steamtown National Historic Site.
- Educators introduce types of railroad equipment using black and white graphics. Students will color in the graphics.
- Educators will cut out and assign railroad worker and railroad passenger sketches to students. Students will take them home and practice reading or memorizing them. Educators will bring the sketches to the on–site visit, where students will read or recite their sketches aboard the “Scranton Limited” Train Ride.
- Greet student group; general information, safety, courtesy to other visitors, no food or beverages in hotel, museum complex, etc., and review on-site schedule with the educator.
- A Ranger will lead a brief tour of the former passenger station before boarding the train. Aboard the train, the Ranger will talk about the importance of building a railroad, and how it helped develop communities, such as Scranton and Wilkes-Barre, into prosperous industrial cities and regions.
- Students will read or recall from memory their sketches from Pre-Visit Module 2.
- Each group of students will locate the types of activity sheet railroad cars in the Museums, and the educators/chaperones will check each item on the activity sheet as each item is located.
- Educators accompany student to the Lackawanna Boxcar Theater to view film about railroad freight cars.
- Educators accompany students to the Rutland Caboose and students will complete an activity sheet. Students match model freight cars with models of products associated with that piece of equipment.
- Each educator/chaperone will use a crew/passenger sheet per group. Show the picture to the students and have them find the statue that matches the picture.
- Ask the students why it is the best match. Educators/chaperones read information from the display. Encourage each student to explain why he or she would or would not want to have that person’s job. Ask in which type of train car would that person travel and why.
- Educators/chaperones record, on Activity Sheet 4, the name of the traveler and the train car this person would ride aboard.
- Ask students to retell what they know about the person before moving to the next activity. If time permits, begin a search for the second person on the sheet.
- Students gather as a large group in the open area at the front of the museum to share their discoveries.
- Each student will draw a line connecting the freight equipment with the correct freight commodity.
- Each student will color a postcard and print a “thank you” note to the Park Ranger relating one special memory about their education program at the site. The educator will place the postcards in the prepaid mailer for return to our park.
- When the project mailer is received at the Park, the Education Team will review them in order to evaluate how well the program’s objectives have been met.

Resources

- Railroad graphics/ coloring images
- Crew and Passenger sketches
- “Scranton Limited” train ride experience begins at the Radisson at Lackawanna Station Hotel
- On-Site Activity 2 Sheet
- Spang & Chalfont #8 steam locomotive
- Rutland Caboose
- L&N Railway Post Office Car
- Lackawanna Boxcar
- Erie Business Car #3
- Lackawanna Boxcar
- Rutland Caboose
- On-Site Activity 3 Sheet
- History Museum
- Identify Crew and Passengers Picture Sheets
- Images description sheet
- Post-Visit Activity Sheet
- Postcards, prepaid return mailer (provided)

Sequence of Activities

Pre-Visit Modules

Suggested Program Length: 20 minutes

1. A First Look at Freight Cars
2. Meet the Crew and Passengers

On-Site Modules

Module One:

Welcome and “Scranton Limited” train ride (Seasonal)

Length of module: 45 minutes

Intro to the former Delaware, Lackawanna, and Western Railroad’s Scranton passenger station and Steamtown National Historic Site.

Module Two:

Group Exploration (Walk Around)

Length of module: 20 minutes

Module Three:

Up-Close with Freight Cars

Length of module: 20 minutes

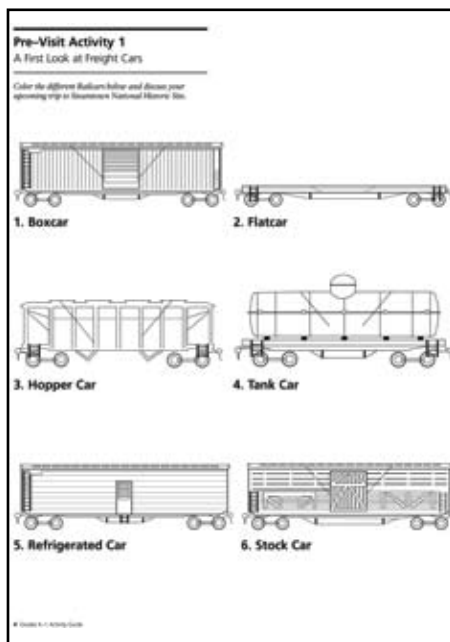
Module Four:

Identify Crew and Passengers

Length of module: 20 minutes

Post-Visit Modules

1. Freight Car Matching
2. Postcards



Pre-Visit Activity 1

Pre-Visit Activity 1

A First Look At Freight Cars

Discuss the upcoming trip to Steamtown National Historic Site.

Educators will introduce various types of railroad freight equipment, using the black-and-white graphic depictions located in the Student Activity Guide. Students may then color the copied graphics.

Pre-Visit Activity 2

“Meet The Crew and Passengers” Module

The “Meet The Crew and Passengers” activity sheets have railroad worker and passenger narratives on them. Cut the different sketches out and hand one to each child. Have them take the sketches home and practice reading them. Distribute the “railroad workers” sketches first, then distribute the “immigrant” sketches; if you have more students, distribute the “passenger” sketches.

Educators will bring the sketches along for their On-Site Visit, where students will recite them to their classmates while aboard the “Scranton Limited” train ride module.

On-Site Activity 1

“Scranton Limited” Train Experience Module

(30 Minutes – begins at the Radisson at Lackawanna Station Hotel)

Greet student group; general information, safety, courtesy to other visitors, no food or beverages in hotel, museum complex, etc., and review on-site schedule with the educator.

The curriculum-based educational experience begins with the educators and their students arriving at the historic Radisson at Lackawanna Station Hotel, 700 Lackawanna Avenue, in downtown Scranton! Busses will discharge school groups at the front steps where a Park Ranger will meet them. The group will walk through the station viewing historic images while listening to a short talk about the station’s purpose. They proceed to the train boarding area to continue the education experience aboard the “Scranton Limited” short train ride. Aboard the train, the Ranger will talk about the importance of building a railroad, and how it helped develop communities, such as Scranton and Wilkes-Barre, into prosperous industrial cities and regions.

Children will read or recall from memory the sketch, assigned by the educator during the Pre-Visit Activity 2, to their classmates and teachers while riding aboard the “Scranton Limited” train ride.

(Busses will proceed to the National Historic Site’s bus parking area to await the group at the program’s end)

Important Note: It is imperative that your group be at the station on time! The “Scranton Limited” Train Experience takes place on a ‘live’ railroad, and cannot be held for late arrivals, and this module will not be rescheduled. In the event of a late arrival, busses must proceed directly to the National Historic Site, where the group will be discharged.



Lackawanna Boxcar and the Rutland Caboose



Spang & Chalfont #8 Steam Locomotive



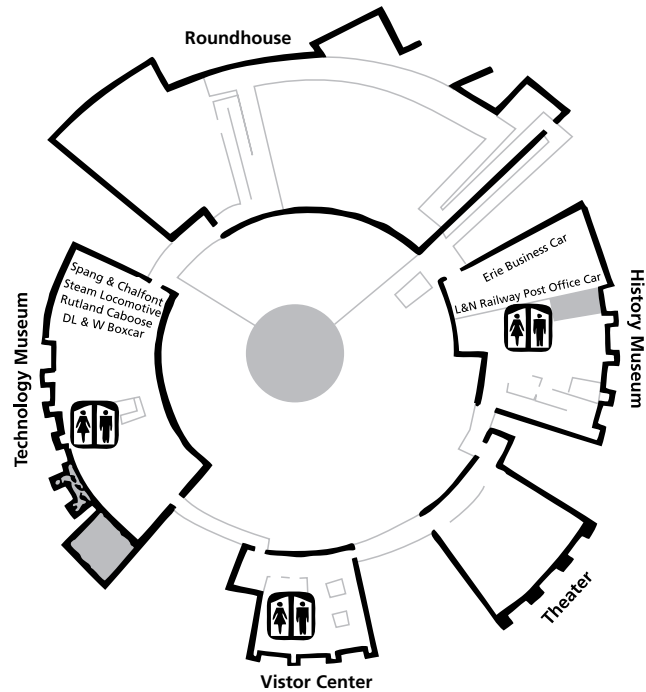
L&N Railway Post Office Car and the Erie Business Car #3

On-Site Activity 2

Group Exploration (Walk-Around) Module

Children will locate the types of railroad cars in the Museums, and the educator and the chaperones will check each item as it is found.

Each group of students will locate the types of activity sheet railroad cars in the Museums, and the educators/chaperones will check each item on the activity sheet as each item is located.



Use the Steamtown Museum Map to locate the different types of railroad cars.

On-Site Activity 3

Up-Close With Freight Cars Module

1. Educators accompany children to the Lackawanna Boxcar Theater to view the film about reight cars and their uses.
2. Educators then move with the children to the Rutland Caboose, adjacent to the Lackawanna Boxcar Theater and complete an activity matching model freight cars with 3-D representations of the products associated with that equipment.

Boxcar	→	Toys
Flat Car	→	Tractor
Hopper Car	→	Coal
Tank Car	→	Milk Carton
Refrigerated Car	→	Fruit
Stock Car	→	Cow



Steamtown Technology Museum

On-Site Activity 4

“Identify The Crew and Passengers” Module

Educators will group students to identify the crew and passengers, and their roles, with steam railroads in the History Museum.



Engineer



Passenger

1. Each educator/chaperone will take one crew/passenger picture per group. Explain to the children that they will be learning about people who lived during the time when steam trains were an important way to travel. The children will be matching the pictures to the statues in the museums. Their mission is to discover who they are and why they are connected to the past so that they can tell the rest of their group. Images are to be copied from the Student Activity Guide.
2. Show a picture to a group and allow them to find the correct match.
3. Ask them why they know it's the best match.
4. Most figures hold a significant item in their hands which relates to their role. Bring this to their attention.
5. The educator/chaperone reads information provided on the display for children. Encourage their personal response by asking if they would want to be that person and why. Give each child a chance to respond.
6. Ask in which kind of railroad car the character would be and why they thought so.
7. Educator/chaperone records on the Activity Sheet the name of the person and the train car in which they would be.
8. Ask students to retell what they know before moving to the next activity.
9. If time permits, begin a search for a second person.
10. Students gather together as a group in the open area at the front of the museum to share their discoveries.



Baggage Handler



Brakeman & Switchman



Conductor



Fireman



Hobo



Immigrants



Master Mechanic



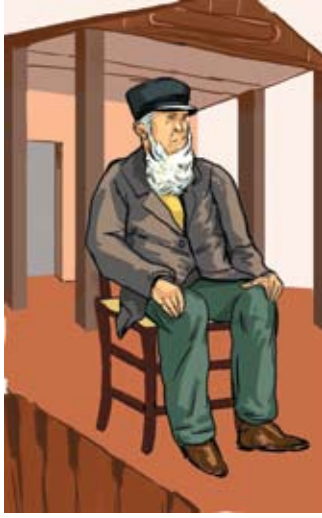
News Butcher



Telegraph Operator



Porter



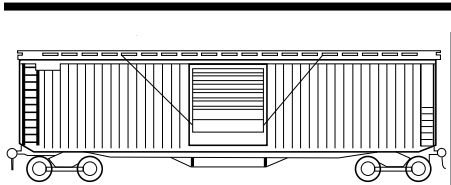
Station Master



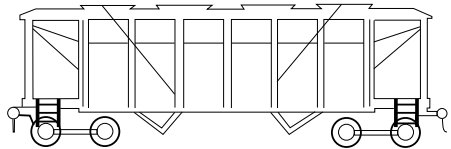
Tycoon



Fireman shoveling coal aboard a steam engine



Boxcar



Hopper Car



Example of postcard

Post-Visit Activity 1

Freight Car Matching

Students will draw a line connecting the images of freight equipment with the correct images of freight commodity.

- Boxcar ———> Toys
- Flat Car ———> Tractor
- Hopper Car ———> Coal
- Tank Car ———> Milk Carton
- Refrigerated Car ———> Fruit
- Stock Car ———> Cow

Post-Visit Activity 2

Postcards

Students will color a postcard and print a “Thank You” note to the Park Ranger, relating one special memory about their education program at the Park. Educators will encourage students to share their written comments with the class. Lastly, the educator will bundle the completed postcards and return them in the prepaid mailer to the Park Education Team. When the project mailer is received at the Park, the Education Team will review them in order to evaluate how well the program’s objectives have been met.

Grades 2–3

Making the Railroad Run

Interpretive Theme

Primary Theme I

Steam Railroading helped transform America into a modern nation, linking small rural towns with large cosmopolitan cities.

Primary Theme II

A huge behind-the-scenes support system helped every railroad run smoothly.

Secondary Theme I

The cultural lifeblood of the nation absorbed the language, legend, and lore of steam railroading.

Resources

- K-W-L Chart
- Whistle Signal Sheet
- Vocabulary Sheet
- Costumes (History Museum)

- Displays in the History and Technology Museums
- Railway Post Office Car
- Addressed Envelopes
- Boxcar Theater
- Freight Car Cards
- Train Ride Module
- Distance Chart
- Elapsed Time Sheets

Curriculum Standards

Reading, Writing, Speaking, and Listening

- 1.6.3 – Listen to others, contribute to discussion, participate in small and large group presentations.

Math

- 2.3.3 – Determine and compare elapsed time, detail time (analog and digital) to the minute.

- Determine and compare elapsed times.

- 2.6.3 – Gather, organize and display data using pictures, tallies, charts, bar graphs, and pictographs.

History

- 8.1.3 – Understand Historical Research

- 8.2.3 – Identify and describe documents, material artifacts and historic sites important in Pennsylvania History.
– Identify and describe how continuity and change have influenced Pennsylvania History (transportation)

- 8.3.2 – Transportation (methods of moving people and goods over time)
– Settlement patterns (farms, towns, rural communities, cities)
– Identify the changes in the work environment over a period of time

Sequence of Activities

Pre-Visit Modules

1. Begin Steamtown NHS K-W-L card (K & W) (required)
2. Railroad vocabulary (required)
3. “Whistle Signals” (required)
4. Students read “The Orphan Train” (suggested)
5. Listen to the song “I’ve Been Working on the Railroad” (suggested)

On-Site Modules

Module One:

Welcome and “Scranton Limited” train ride (Seasonal)

Length of module: 45 minutes

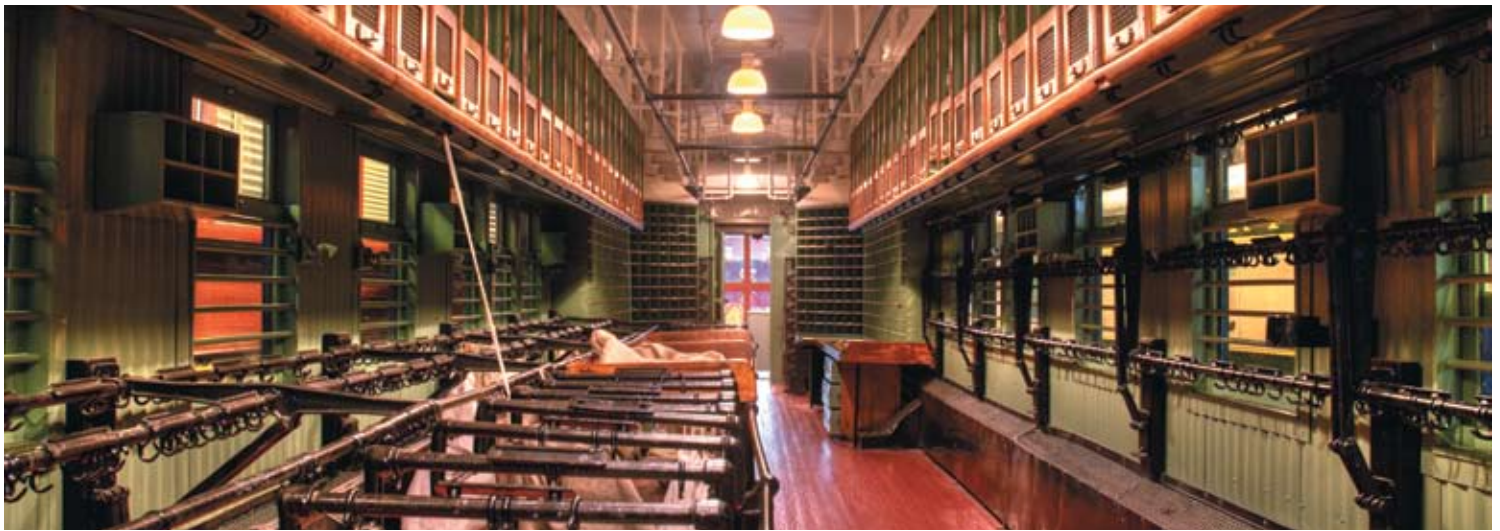
Intro to the former Delaware, Lackawanna, and Western Railroad’s Scranton passenger station and Steamtown National Historic Site

Directions and Procedures

- Discuss the upcoming trip to Steamtown National Historic Site.
- Educators will instruct students to complete a K-W-L chart; fields “K” (What they know about the Steamtown National Historic Site) and “W” (What they want to know about the Steamtown National Historic Site).
- Educators will review railroad vocabulary with students so that they will be able to understand and use it in context.
- Educators will review whistle signals and their meanings for on-site activity.
- Read the story to the students.
- Students will listen to the song and imagine what the song is about. Sing the song. Create a new version of the song.
- Greet student group; general information, safety, courtesy to other visitors, no food or beverages in buildings, on-site schedule.
- A Ranger will lead a brief tour of the former passenger station before boarding the train. Aboard the train, the Ranger will talk about the importance of building a railroad, and how it helped develop communities, such as Scranton and Wilkes-Barre, into prosperous industrial cities and regions.
- Aboard the train, the students will listen to a Park Ranger highlight and explain various historic and modern pieces of railroad equipment in the authentic railroad yard.

Resources

- K-W-L Chart (Student Activity Guide)
- Railroad Vocabulary Sheet (Student Activity Guide)
- Whistle Signal Sheet (Student Activity Guide)
- Book: “The Orphan Train” by Verla Kay (not provided)
- Music “I’ve Been Working On The Railroad” (not provided)
- “Scranton Limited” train ride experience begins at the Radisson at Lackawanna Station Hotel



Louisville & Nashville Railway Post Office car in Steamtown History Museum

Sequence of Activities

Module Two:

“Who Am I?” (Walk Around)

Length of module: 25 minutes

Module Three:

Mail Call

Length of module: 20 minutes

Module Four:

Freight Cars

Length of module: 15 minutes

Module Five:

Ready the Caboose

Length of module: 15 minutes

Module Six:

Whistle Signals

Length of module: 15 minutes

Post-Visit Modules

1. “Where are We Going?”

2. “Are We There Yet?”

3. Complete Steamtown NHS
K-W-L Chart (L)

Directions and Procedures

– Educators and students visit the History Museum. Educators will assemble small groups to visit the polychromes to learn about job responsibilities of the railroader depicted using the adjacent exhibit. The Park Ranger will distribute a hat to each group. Educators will assign one person from each group to take care of the hat. Ask students why or why wouldn’t they like to do this job. The group will spend 5 minutes at the “statue” then go on to the next polychrome, then the next, etc.

– Educators will guide students to the Railway Post Office Car (Louisville & Nashville) where they will learn how this car operated. The educator will split the students into small groups for this activity. Each group of students will identify abbreviations of states posted on letter slots. They will then sort approximately 5 letters per student according to state abbreviations on the envelopes. As each group completes the activity, chaperone may lead students through the Erie Business Car until all students have completed the activity.

For Modules 4 thru 6, the educator/chaperone will evenly divide the group. These smaller groups will each take and perform an activity concurrently. Each group must complete all 3 Modules.

– Educators will escort students to the Lackawanna Boxcar theater to view a short video about types of railroad cars. This group will move outside of the boxcar to complete the next exercise.

– Educators will read a short description of a railroad car using a flip chart. Students will identify the correct freight car using their group flip chart. This group then moves to Module 5, “Ready the Caboose,” or Module 6, “Whistle Signals.”

– Educators will escort students to the Rutland Railroad caboose. The Park Ranger will provide sample supplies and staples of items that would be found on a working caboose. Educators/chaperones will distribute one item per student who will board the caboose and place the item where it would be used.

– Another educator/chaperone will collect the items as the students complete the exercise. The items will be deposited in a container. This group will move to Module 4, “Freight Car,” or Module 6, “Whistle Signals.”

– Educators will escort students to the Whistle Signal exhibit. The educator will operate the exhibit and the students will identify the sounds (learned during Pre-Visit Activity #3). When completed, this group will move to Module 4, “Freight Cars,” or Module 5, “Ready the Caboose.”

– Students complete a bar graph using the “Distance Chart” of the Delaware, Lackawanna & Western Railroad.

– Students complete the elapsed time assignment.

– Educators direct students to completed “L-Learned” field of the Steamtown NHS “K-W-L” Chart.

– The educator will place the completed “K-W-L” sheets in the prepaid mailer for return to our Park. When the project mailer is received at the Park, the Education Team will review them in order to evaluate how well the program’s objectives have been met.

Resources

- History Museum
- Polychromes (statues) Hats

- History Museum Railway Post Office Car Addressed Envelopes

- Technology Museum
- Lackawanna Boxcar Theater
- Flipcharts

- Technology Museum Rutland Caboose
- Caboose Props

- Technology Museum Whistle Signals

- Distance Chart (Student Activity Guide)

- Elapsed Time Sheet (Student Activity Guide)
- K-W-L Charts (Student Activity Guide)
- Prepaid Mailers

Sequence of Activities

Pre–Visit Modules

1. Begin Steamtown NHS K–W–L card (K & W) (required)
2. Railroad vocabulary (required)
3. “Whistle Signals” (required)
4. Students read “The Orphan Train” (suggested)
5. Listen to the song “I’ve Been Working on the Railroad” (suggested)

On–Site Modules

Module One:

Welcome and “Scranton Limited” train ride (Seasonal)

Length of module: 45 minutes

Intro to the former Delaware, Lackawanna, and Western Railroad’s Scranton passenger station and Steamtown National Historic Site

Module Two:

“Who Am I?” (Walk Around)

Length of module: 25 minutes

Module Three:

Mail Call

Length of module: 20 minutes

Module Four:

Freight Cars

Length of module: 15 minutes

Module Five:

Ready the Caboose

Length of module: 15 minutes

Module Six:

Whistle Signals

Length of module: 15 minutes

Post–Visit Modules

1. “Where are We Going?”
 2. “Are We There Yet?”
 3. Complete Steamtown NHS K–W–L Chart (L)
-

Pre–Visit Activity 1

Steamtown NHS “K–W–L” Worksheet Module

Discuss the upcoming trip to Steamtown National Historic Site.

Resources: K–W–L Chart (Student Activity Guide)

Educators will distribute Steamtown NHS “K–W–L” charts to students. Educators will instruct students to complete a K–W–L chart; fields “K” (What they know about the Steamtown National Historic Site) and “W” (What they want to know about the Steamtown National Historic Site).

Pre–Visit Activity 2

Railroad Vocabulary

Educators will review railroad vocabulary with students so that they will be able to understand and use it in context.

Resources: Railroad Vocabulary Sheet (Student Activity Guide)

1. Anthracite Coal: A type of coal (“hard” coal), providing much heat and little smoke when burned; difficult to mine
2. Bituminous Coal: A type of coal (“soft” coal), providing heat with more smoke when burned; easier to mine
3. Conductor: The person in charge of the train and its movements
4. DL&W RR: The Delaware, Lackawanna & Western Railroad, a company established in Scranton, PA originally to haul iron; it also hauled coal and other products, and had passenger service
5. Diesel Locomotive: A railroad engine which uses fuel oil to generate electricity for power to move a train
6. Engineer: The person who operates, or drives, a locomotive
7. Fireman : The person who worked to shovel coal into the firebox and to get water into the boiler of a steam locomotive
8. Freight: The goods carried by trains (food, lumber, computers, grain, autos, trucks, etc.)
9. Handcar: A manually powered vehicle used by track workers to inspect the track
10. News Butcher: A peddler, usually a child, who earned money by selling newspapers, snacks, sandwiches, cigars, etc. to train passengers during the steam–locomotive era
11. Passenger: A person who pays a fare to ride on a train
12. Porter: A person, originally a newly freed slave, who worked in Pullman cars handling baggage, making up sleeping quarters, and taking care of his passengers
13. Roundhouse: A circular or semicircular building where steam locomotives could be inspected, repaired or stored until their next assignment
14. Steam Locomotive: A railroad engine that uses fuel to heat water and produce the steam power needed to move a train
15. Turntable: A moving platform with a railroad track, used to move steam locomotives in and out of a roundhouse

Whistle Signal Activity Key

* Short — Long

Signal	Meaning
* <----->	Stop
— — <----->	Proceed
*** <----->	Backup
— — * — <----->	Grade Crossing
— — — — <----->	Approaching Station
***** <----->	Get Off The Tracks

Pre-Visit Activity 3

“Whistle Signals”

Educators will review whistle signals and their meanings for the on-site Whistle Signal activity.

Educators will review signals and their meanings, using the chart to the left, with the students. Students will memorize the signals and their meanings in order to complete activities during their site visit.



Nickel Plate #759 on display in the Steamtown Roundhouse

Pre-Visit Activity 4

“The Orphan Train” by Verla Kay

Read the story to the students

As students read the book “Orphan Train,” ask them to discuss feelings about the children in the story. Engage the students by asking them to relate personal stories with similar experiences.

Pre-Visit Activity 5

“I’ve Been Working on the Railroad” Song

Students will listen to the song and imagine what the song is about. Sing the song. Create a new version of the song.

Have students listen to the song’s lyrics and ask them what they think the song is about. For a fun activity with small groups, or as a class, have students break into groups and create a new version of the song.



Lobby of Radisson at Lackawanna Station Hotel

On-Site Activity 1

“Scranton Limited” Train Experience Module

(30 Minutes – begins at the Radisson at Lackawanna Station Hotel)

Greet student group; general information, safety, courtesy to other visitors, no food or beverages in hotel, museum complex, etc., and review on-site schedule with the educator.

The curriculum-based educational experience begins with the educators and their students arriving at the historic Radisson at Lackawanna Station Hotel, 700 Lackawanna Avenue, in downtown Scranton! Busses will discharge school groups at the front steps where a Park Ranger will meet them. The group will walk through the station viewing historic images while listening to a short talk about the station’s purpose. They proceed to the train boarding area to continue the education experience aboard the *“Scranton Limited”* short train ride. Aboard the train, the Ranger will talk about the importance of building a railroad, and how it helped develop communities, such as Scranton and Wilkes-Barre, into prosperous industrial cities and regions.

Aboard the train, the students will listen to a Park Ranger highlight and explain various historic and modern pieces of railroad equipment in the authentic railroad yard.

(Busses will proceed to the National Historic Site’s Bus parking area to await the group at the program’s end)

Important Note: It is imperative that your group be at the station on time! The “Scranton Limited” Train Experience takes place on a ‘live’ railroad, and cannot be held for late arrivals, and this module will not be rescheduled. In the event of a late arrival, busses must proceed directly to the National Historic Site, where the group will be discharged.



Railway Express Agency baggage wagon, restored at Steamtown NHS, on display in the History Museum

On-Site Activity 2

"Who Am I?" (20 Minutes)

Educators will assemble small groups to visit the polychromes to learn about job responsibilities of the railroader depicted using the adjacent exhibit.

Educators will take the students to visit the History Museum. They will assemble the students into small groups to learn about the job responsibilities of the railroaders depicted by the polychromes (statues) and the related exhibits. The Park Ranger will distribute hats representing one of the polychromes (statues) to a student from each group. Educators will assign one person from each group to take care of the hat. The groups will then assist their representative in learning about this student's "railroad job." The students will use the information that they learn in order to reinforce their knowledge and understanding of the railroaders and jobs depicted. Ask the students if they'd like to do this job, and then ask why - or why not?

On-Site Activity 3

"Mail Call" (20 Minutes)

Educators will move students to the Railway Post Office car (Louisville & Nashville) where they will learn how this car operated.

Students will learn how a Railway Post Office car operated. Next, the groups will identify the abbreviations of numerous states posted on the letter slots aboard the car, and then sort approximately 5 envelopes per student, according to state abbreviations on the envelope. As each group completes the activity, chaperone may lead students through the Erie Business Car until all students have completed the activity.



On-Site Activity 4

“Freight Cars” Activities 4–6 Take Place Simultaneously, 15 Minutes Each

For Modules 4 thru 6, the educator/chaperone will evenly divide the group. These smaller groups will each take and perform an activity concurrently. Each group must complete all 3 Modules.

Educators will escort students to the Lackawanna Boxcar Theater to view a short video about types of railroad cars. This group will move outside of the boxcar to complete the next exercise.



Whistle Signal Game

The students will watch a short video about freight equipment, in order to be able to identify certain types of railroad freight cars.

Next, the small groups will move outside the boxcar theater and gather with their educators/chaperones to complete a visual matching exercise - matching freight cars to their intended purposes. The educator will read a descriptive statement about a freight car from a flipchart (its purpose, type of freight carried, etc.), and the students will use a similar flipchart to identify the correct freight car.

Upon activity completion, this group will move immediately to Activity 5 (Caboose)

On-Site Activity 5

“Ready the Caboose” (15 Minutes)

Educators will move their group of students to the Rutland Railroad Caboose (adjacent to the Lackawanna Boxcar Theater).

The Park Ranger will provide sample props of items that would be found aboard a typical working caboose (i.e. fruit, milk, coffee pot, etc.) An educator/chaperone will distribute a prop to each child, who will board the caboose and place the item where it would be found (i.e. coffee pot on the stove, paper and pencils at the desk, etc.) Another educator/chaperone will already be aboard the caboose to collect the props when the exercise is completed.

Whistle Signal Activity Key

* Short — Long

Signal	Meaning
*	Stop
— —	Proceed
***	Backup
— — *	Grade Crossing
— — —	Approaching Station
*****	Get Off The Tracks

On-Site Activity 6

“Whistle Signals” (15 Minutes)

Educators will move their group of students to the “Whistle Signals” in the Technology Museum.

The educator will operate the game, and the gathered students will identify the signal sound (learned at Pre-Visit Activity #3) The educator will press the corresponding signal button to check the student’s responses.

Note: The educator will need to move quickly, as the computer game will reset within moments of inactivity.

Post-Site Activity 1
 "Where Are We Going?"

Draw a bar graph using the distance chart and graph below:

Station	Miles
Moscow	15
Sylphus	25
Cornucopia	35
Steamtown	45

"Where Are We Going?" Distance Chart

Post-Site Activity 1

"Where Are We Going?"

Educators will have the students make a bar graph using the "Distance Chart"

Students complete a bar graph using the "Distance Chart" of the Delaware, Lackawanna & Western Railroad.

Post-Site Activity 2
 Group Explorations (Walk-Around) Module

What time will the passenger train arrive at the station? Fill in the empty clock with the correct arrival time.

	Time Left	Time Arrive
The Empire Builder leaves Minneapolis at 8:00 am. It takes 5 hours to go to Chicago. What time does the Empire Builder arrive in Chicago?		
The Shasta Daylight leaves Sacramento at 8:00 pm. It takes 5 hours to go to San Francisco. What time does the Shasta Daylight arrive in San Francisco?		
The Pioneer Express leaves Birmingham at 2:00 pm. It takes 4 hours to go to Newark. What time does the Pioneer Express arrive in Newark?		
The North Coast Limited leaves Fargo at 12:00 pm. It takes 3 hours and 30 minutes to go to Bismarck. When does the North Coast Limited arrive in Bismarck?		
The Merchants Limited leaves Boston at 9:00 pm. It takes 4 hours to go to New York. When does the Merchants Limited arrive in New York?		

"Are We There Yet?" Time Sheet

Post-Site Activity 2

"Are We There Yet?"

Educators will have the students complete the elapsed time sheets.

Pre-Visit Activity 1
 Steamtown NHS "K-W-L" Worksheet

Know - Write what you already know about Steamtown National Historic Site

Want - Write what you want to know about Steamtown National Historic Site

Learned - Write what you learned while at Steamtown National Historic Site

K-W-L Worksheet

Post-Site Activity 3

Complete the K-W-L Worksheets

Educators will have the students complete the "L - Learned" field of Steamtown NHS "K-W-L" Worksheets

The educator will place the completed "K-W-L" sheets in the prepaid mailer for return to Education Team at Steamtown NHS. When the project mailer is received at the Park, the Education Team will review them in order to evaluate how well the program's objectives have been met.

Grades 4–6

Railroads in the Local Community

Interpretive Theme

Primary Theme I

Steam railroading helped transform America into a modern nation, linking small rural towns with larger cosmopolitan cities.

Primary Theme II

Railroading helped transform America's labor force.

Primary Theme III

A huge behind-the-scenes support system helped every railroad run smoothly.

Secondary Theme I

The culture lifeblood of the nation absorbed the language, legend and lore of steam railroading.

Secondary Theme II

The National Park System preserves and interprets exemplary sites important to American natural and cultural heritage

Resources

- Powerpoint Introduction
- Vocabulary Sheet (Student Activity Guide)

- Student job application
- Railroad worker trunks (History Museum)
- Displays in the History and Technology Museums
- Roundhouse and turntable
- Laborer's duties chart (Roundhouse)
- Turntable, transfer table model (1902 Roundhouse)
- Handcar
- Train Ride Module
- Postcards
- Postage prepaid return mailer
- Student Activity Booklet
- Team Technology Worksheet*
- Ticket Punches*

* *Alternate Inclement Weather Activity*

Curriculum Standards

Reading, Writing, Speaking, and Listening

- 1.1 – Learning to read independently
- 1.2 – Reading critically in all content areas
- 1.4 – Types of writing

- 1.6 – Speaking and listening
- 1.7 – Characteristics and function of the English language
- 1.8 – Research

Math

- 2.2 – Computation and Estimation
- 2.5 – Mathematical problem solving and communication

Science and Technology

- 3.1 – Unifying themes of Science
- 3.4 – Physical science, chemistry, and physics
- 3.6 – Technology education
- 3.7 – Technological Devices
- 3.8 – Science, technology, and human endeavors

History

- 8.1 – Historical analysis and skills development
- 8.2 – Pennsylvania History
- 8.3 – United States History
- 8.4 – World History

Arts and Humanities

- 9.2 – Historical and Cultural Contexts
- 9.3 – Critical Response

Sequence of Activities

Pre-Visit Modules

The National Park System

Suggested program length: 30 minutes

1. Introduce the National Park System and Steamtown National Historic Site (PowerPoint presentation)
2. Railroad Vocabulary - Introduce railroad terms and vocabulary
 - a. Read vocabulary words
 - b. Activity Sheet
3. Student Job Application

On-Site Modules

Module One:

Welcome and “Scranton Limited” train ride (Seasonal)

Length of module: 45 minutes

Intro to the former Delaware, Lackawanna, and Western Railroad's Scranton passenger station and Steamtown National Historic Site.

Directions and Procedures

- Download NPS PowerPoint introduction from the “For Teachers” section of the Steamtown NHS website (www.nps.gov/stea). View PowerPoint presentation with the students.
- Ask students which National Parks have they visited
- Discuss the upcoming trip to Steamtown National Historic Site
- Ask who has been to Steamtown NHS. Ask where it is located and why it's significant.
- In pairs, read vocabulary words and meanings. Complete activity sheet to check understanding.
- Each student must complete Sections 1, 2, 3, 6 and 9 of the Student Job Application to assist the teacher in forming and preparing groups/teams for the on-site “Railroad Workers” activity. (Other Sections may be completed at the educator's discretion.)
- Greet student group; general information, safety, courtesy to other visitors, no food or beverages in buildings, on-site schedule.
- A Ranger will lead a brief tour of the former passenger station before boarding the train. Aboard the train, the Ranger will talk about the importance of building a railroad, and how it helped develop communities, such as Scranton and Wilkes-Barre, into prosperous industrial cities and regions.
- Students will be instructed to observe and identify challenges that would be encountered in order to construct a railroad from the Lackawanna Valley to New York City or the Great Lakes.
- Students will be able to identify at least 3 solutions for building a railroad that will encounter geographic obstacles such as rivers, mountains, and valleys.

Resources

- NPS “Pre-visit” Intro PowerPoint presentation (available for download online)
- Steamtown NHS brochure
- NPS website (www.nps.gov)
- Grades 4–6 Student Activity Guide
- Grades 4–6 Student Activity Guide
- “Scranton Limited” train ride experience begins at the Radisson at Lackawanna Station Hotel



Sequence of Activities

Module Two:

Turntable and Roundhouse Tour

Length of module: 20 minutes

- a. Students will view the turntable
- b. Students will tour the roundhouse

Module Three:

The Handcar Experience

Students will participate in the Handcar Experience

Length of module: 30 minutes

Module Four:

“Railroad Workers” Program

Length of module: 30 minutes

Post-Visit Modules

1. Discussion of visit to Steamtown National Historic Site
2. Design a postcard about the visit to Steamtown National Historic Site
3. Educator returns the postcards in prepaid mailer
4. Postcards are reviewed by Park Education Staff. When complete, the postcards will be mailed to the addressees.

Directions and Procedures

- A Ranger will lead a talk about the importance of the turntable and roundhouse to steam railroad operations.
- Students will be able to explain why a roundhouse with turntable was the preferred option for a steam locomotive servicing facility on this site.
- The Ranger will give a safety message. Groups of four students will cooperatively operate an authentic handcar. Each group will have one opportunity to operate the handcar; chaperones will group the students accordingly and stay with them. When each group of four students has experienced the handcar, for safety and order, the teacher/chaperone will move them away from that immediate area. These groups will proceed to explore the New Haven Trap Rock locomotive #43 in preparation for the next module.
- * *Alternate (Inclement Weather)*
 - *When inclement weather forces the cancellation of actual handcar use, chaperones will escort students to the Technology Museum for a student directed informational search. Students acquire general knowledge about construction, architecture, disasters, operations, and communications of a railway system. Students, working in groups of 4 or 5, will complete a worksheet with questions about specific displays. As a group completes each worksheet activity, they will ask their chaperone to check their work. If the student's answers are correct, their chaperone will punch the train ticket for that section. Chaperones will pass punches to the next group of chaperones.*
- From the Grades 4–6 Activity Guide, students will have been equally divided into five groups, each group representing one railroad worker as identified in the Guide.
- Students will examine the contents of their assigned “worker” trunk and the History Museum polychromes (statues) to learn about that worker’s job.
- Each group will assemble to present three job responsibilities about their role on the train.
- Discuss visit to Steamtown National Historic Site; what the students found interesting, what were their favorite memories, what did they discover that they had not known before the visit.
- Discuss with the students how preserving the authentic rail road yard and equipment is important for them and future generations.
- Direct each student to create a postcard about the visit.
- Upon completion of the “Create-a-Postcard” activity, the teacher will place the postcards in the prepaid return mailer for return to our Park.
- When the “Create-a-Postcard” project is received back at the Park, the Education Team will review them in order to evaluate how well the program’s objectives have been met.
- The Park will mail the student-addressed postcards upon completion of the evaluation.

Resources

- Turntable and Roundhouse
- Turntable, Transfer Table model
- Operable handcar, blue flagged yard track
- Technology Museum
- Ticket Punches
- History Museum
- Grades 4–6 Activity Guide
- Railroad worker trunks
- Grades 4–6 Activity Guide
- Markers, paints, crayons, or colored pencils
- Postcards (provided)
- Prepaid return mailer (provided)

Sequence of Activities

Pre–Visit Modules

The National Park System

Suggested program length: 30 minutes

1. Introduce the National Park System and Steamtown National Historic Site (PowerPoint presentation)
2. Railroad Vocabulary - Introduce railroad terms and vocabulary
 - a. Read vocabulary words
 - b. Activity Sheet
3. Student Job Application

On–Site Modules

Module One:

Welcome and “Scranton Limited” train ride (Seasonal)

Length of module: 45 minutes

Intro to the former Delaware, Lackawanna, and Western Railroad’s Scranton passenger station and Steamtown National Historic Site.

Module Two:

Turntable and Roundhouse Tour

Length of module: 20 minutes

- a. Students will view the turntable
- b. Students will tour the roundhouse

Module Three:

The Handcar Experience

Students will participate in the Handcar Experience

Length of module: 30 minutes

Module Four:

“Railroad Workers” Program

Length of module: 30 minutes

Post–Visit Modules

1. Discussion of visit to Steamtown National Historic Site
 2. Design a postcard about the visit to Steamtown National Historic Site
 3. Educator returns the postcards in prepaid mailer
 4. Postcards are reviewed by Park Education Staff. When complete, the postcards will be mailed.
-

Pre–Visit Activity 1

Railroad Vocabulary

In pairs, read vocabulary words and meanings. Complete activity sheet to check understanding.

1. Anthracite Coal: A type of coal (“hard” coal), providing much heat and little smoke when burned; difficult to mine
2. Bituminous Coal: A type of coal (“soft” coal), providing heat with more smoke when burned; easier to mine
3. Conductor: The person in charge of the train and its movements
4. DL&W RR: The Delaware, Lackawanna & Western Railroad, a company established in Scranton, PA originally to haul iron; it also hauled coal and other products, and had passenger service
5. Diesel Locomotive: A railroad engine which uses fuel oil to generate electricity for power to move a train
6. Engineer: The person who operates, or drives, a locomotive
7. Fireman : The person who worked to shovel coal into the firebox and to get water into the boiler of a steam locomotive
8. Freight: The goods carried by trains (food, lumber, computers, grain, autos, trucks, etc.)
9. Handcar: A manually powered vehicle used by track workers to inspect the track
10. News Butcher: A peddler, usually a child, who earned money by selling newspapers, snacks, sandwiches, cigars, etc. to train passengers during the steam–locomotive era
11. Passenger: A person who pays a fare to ride on a train
12. Porter: A person, originally a newly freed slave, who worked in Pullman cars handling baggage, making up sleeping quarters, and taking care of his passengers
13. Roundhouse: A circular or semicircular building where steam locomotives could be inspected, repaired or stored until their next assignment
14. Steam Locomotive: A railroad engine that uses fuel to heat water and produce the steam power needed to move a train
15. Turntable: A moving platform with a railroad track, used to move steam locomotives in and out of a roundhouse

Pre-Visit Activity 1

Railroad Vocabulary

Name: _____

Match the vocabulary word from the word bank to the definitions below.

Vocabulary Word Bank

A. Anthracite Coal	B. Bituminous Coal	C. Conductor	D. DL&W RR
E. Diesel Locomotive	F. Engineer	G. Fireman	H. Freight
I. Handcar	J. News Butcher	K. Passenger	L. Porter
M. Roundhouse	N. Steam Locomotive	O. Turntable	

H

N

K

M

I

J

L

B

O

G

C

F

D

A

E

1. The goods carried by train (food, lumber, computers, goods, etc., etc.)

2. A railroad engine that uses fuel to heat water and produce the steam power needed to move a train.

3. A person who pays a fare to ride on a train.

4. A circular or semi-circular building where steam locomotives could be repaired, repacked or stored and their work supported.

5. A manually powered vehicle used by track workers to inspect the track.

6. A position, usually a shift, often worked away by selling newspapers, snacks, sandwiches, cigars, etc. to train passengers during the steam locomotive era.

7. A person, originally a female (and also, who worked in Pullman cars handling luggage, making up sleeping quarters, and taking care of the passengers).

8. A type of coal ("soft" coal), providing heat with more smoke when burned, easier to mine.

9. A moving platform with a railroad track, used to move steam locomotives in and out of a roundhouse.

10. The person who worked to shovel coal into the boiler, and to get water into the boiler of a steam locomotive.

11. The person in charge of the train and its movement.

12. The person who operates, or drives, a locomotive.

13. The Delaware, Lackawanna & Western Railroad, a company established in Scranton, PA originally to haul iron, it also hauled coal and other products, and had passenger service.

14. A type of coal ("hard" coal), providing much heat and little smoke when burned, difficult to mine.

15. A railroad engine which uses fuel oil to generate electricity for power to move a train.

Vocabulary Worksheet

Pre-Visit Activity 2

Student Job Application Activity

Each student must complete Sections 1, 2, 3, 6 and 9 of the Student Job Application (other Sections may be completed at the educator's discretion) to assist the teacher in forming and preparing groups/teams for the on-site "Railroad Workers" activity.

In this learning module, groups of students will work together to create a human "train"! For this section, you are asked to create equal groups, preferably 5, of students. To help you do this, we have an authentic railroad employment application printed in the Activity Guide. Have equal numbers of students apply for the job titles listed below. Next, group the students using the following railroad job titles:

- Engineer – One group of students; choose one student to "work" as the engineer.
- Fireman – Create another group of students, choose one to "work" as the fireman.
- Conductor – Same as "B"
- Porter – Same as "B"
- News Butcher – Same as "B"

On-Site Activity 1

"Scranton Limited" Train Experience Module

(30 Minutes – begins at the Radisson at Lackawanna Station Hotel)

Greet student group; general information, safety, courtesy to other visitors, no food or beverages in hotel, museum complex, etc., and review on-site schedule with the educator.

The curriculum-based educational experience begins with the educators and their students arriving at the historic Radisson at Lackawanna Station Hotel, 700 Lackawanna Avenue, in downtown Scranton! Busses will discharge school groups at the front steps where a Park Ranger will meet them. The group will walk through the station viewing historic images while listening to a short talk about the station's purpose. They proceed to the train boarding area to continue the education experience aboard the "Scranton Limited" short train ride. Aboard the train, the Ranger will talk about the importance of building a railroad, and how it helped develop communities, such as Scranton and Wilkes-Barre, into prosperous industrial cities and regions.

Students will be instructed to observe and identify challenges that would be encountered in order to construct a railroad from the Lackawanna Valley to New York City or the Great Lakes.

Students will be able to identify at least 3 solutions for building a railroad that will encounter geographic obstacles such as rivers, mountains, and valleys.

(Busses will proceed to the National Historic Site's bus parking area to await the group at the program's end)

Important Note: It is imperative that your group be at the station on time! The "Scranton Limited" Train Experience takes place on a 'live' railroad, and cannot be held for late arrivals, and this module will not be rescheduled. In the event of a late arrival, busses must proceed directly to the National Historic Site, where the group will be discharged.



Turntable & locomotive

On-Site Activity 3 Alternate
Team Technology Activity

Name: _____ Group: _____

After completing each section, have your teacher, guide or chaperone check your work. If your answers are correct you will have your train ticket punched.

Building a Railway

Read the information and watch the video to answer the questions.

1. Merganser Island and before that were used to perform track work were called Gandy Dancers

2. A series are needed to complete go both of rail, which equals construction work. These make the world's table to construct a mile of rail. On the line to show your work 4224 10

3. What is the record for how many miles of track laid in one day?

Architecture

Read the printed information and answer the questions.

1. How much money did it cost to get for making his life saving the value of a new bridge? \$10-\$20

2. What is the name of the bridge? Junkhannock Viaduct

3. How many people did it take to build the bridge? On the line to show your work 3

Generating and Using Steam

Watch the video and read the information printed. Then, number the following statements in the correct order as they occur.

3 Once inside the cylinders the high pressure steam expanded and pushed a piston back and forth.

1 Burning fuel in a boiler heated water to the surrounding boiler and created steam.

4 The back and forth movement of the piston drove connecting rods, which then turned the main drive wheel, propelling the locomotive.

2 The steam was released into the smoke pipe and then into the chimney.

On-Site Activity 2

Turntable and Roundhouse Tour

A Ranger will lead a talk about the importance of the turntable and roundhouse to steam railroad operations.

Students will be able to explain why a roundhouse with turntable was the preferred option for a steam locomotive servicing facility on this site.

On-Site Activity 3

The Handcar Experience

The Ranger will give a safety message. Groups of four students will cooperatively operate an authentic handcar. Each group will have one opportunity to operate the handcar; chaperones will group the students accordingly and stay with them. When each group of four students has experienced the handcar, for safety and order, the teacher/chaperone will move them away from that immediate area. These groups will proceed to explore the New Haven Trap Rock locomotive #43 in preparation for the next module.

Disasters

Watch the video clip, read the printed information and then answer the following questions.

1. What caused the train to derail? Mud on the track

2. Give two reasons why there were no fatalities. trains traveled farther and faster

Operating a Steam Locomotive

Read the display and watch the video clip to find the answers to the following questions.

1. braking is the engineer's most delicate operation.

2. What does the engineer put on the tracks to maintain traction? sand

3. What is the locomotive's job? Replace fuel (water & Coal)

Railroad Communications

Examine the right, radio controls and their messages. In the box to the right, create and label your own radio control.

Lantern Signals

Check the correct answer.

What color lens means this equipment was not to be disturbed?

Blue X Clear Amber Red

Telegraph Messaging

Watch the video clip and decode the following telegraph message.

LET ME KNOW WHEN YOU'RE COMING Let me know when you're coming

Next, try to decode this message.

When is the train coming? WN is the TR CMG?

Whistle Signals

Play the whistle game. Match the whistle signal with the meaning. The meanings are on the answer board to the right of the game board back at your station in order to use the board.

Put an X on the line after you play the game try at least 3. X

Preservation (On Your Own)

Explain why learning about the history and preservation of the steam locomotive is important. Write in the box to the right.

Team Technology Activity Sheet



History trunks used in Grades 4-6 Education Program

On-Site Activity 4

"Railroad Workers" Program

From the Grades 4-6 Activity Guide, students will have been equally divided into groups, each group representing one railroad worker.

Students will examine the contents of their assigned "worker" trunk and the History Museum polychromes (statues) to learn about that worker's job.

Each group will assemble to present three job responsibilities about their role on the train.

Post-Site Activity 1

Discussion of Visit To Steamtown National Historic Site

Discuss visit to Steamtown National Historic Site; what the students found interesting, what were their favorite memories, what did they discover that they had not known before the visit.

Discuss with the students how preserving the authentic railroad yard and equipment is important for them and future generations.

Post-Site Activity 2

Postcards

Direct each student to create a postcard about the visit, as described in the Educators Guide.

Upon completion of the "Create-a-Postcard" activity, the teacher will place the postcards in the prepaid return mailer for return to the Park.

When the "Create-a-Postcard" project is received back at the Park, the Education Team will review them in order to evaluate how well the program's objectives have been met.

The Park will mail the student-addressed postcards upon completion of the evaluation.



Example of postcard

National Park Service
U.S. Department of the Interior

Steamtown National Historic Site



Steamtown National Historic Site
150 South Washington Avenue
Scranton, PA 18503-2018

EXPERIENCE YOUR AMERICA